

REMARKS

Claim 2 has been rejected under 35 U.S.C. §112 (second paragraph).

The claim has been amended to obviate the Examiner's rejection.

Claims 1, 3, 6-7, 13-14, 21, 24-28, and 32, have been rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,869,135, Vaeth et al.

The applicant's invention is directed to the deposition of coatings to form coatings that have defined functional groups with sufficient chemical reactivity to undergo chemical reactions subsequent to the deposition. The reactive coatings have sufficient intrinsic reactivity to react with target molecules. Specifically, the amenability to post-deposition reactions allows for anisotropic modification, if the post-deposition reactions is conducted in an anisotropic fashion, e.g. via printing techniques.

On the other hand, Vaeth et al. '135, discloses a system for selective deposition of polymers via chemical vapor deposition, "CVD," polymerization, i.e. the polymer film is substantially thicker in the regions of favorable nucleation than in the regions of unfavorable nucleation. The polymer disclosed in claim 1, specifically, poly(p-phenylene vinylene) has no intrinsic chemical reactivity to undergo subsequent chemical reactions.

The applicant's invention does not disclose any kind of selective deposition. Thus, the applicant's invention results in polymer films that have the same thickness everywhere. Additionally, the polymer films must be chemically reactive and support chemical reactions at the surface of the coating subsequent to the chemical vapor deposition step. If the subsequent reaction step is conducted in an anisotropic manner, then the surface will have an anisotropic chemical and biological signature.

Vaeth et al. '135 has disclosed CVD polymerization process, however, their approach is different in at least two ways. Specifically, in Vaeth et al. '135 the polymers made according to the disclosure, result in polymers that have no functional groups to support further modification. It is intended that the coating be inert and non-reactive. As opposed to, the applicant's invention which is directed to the preparation of reactive coatings that have sufficient chemical reactivity to undergo subsequent chemical modifications.

The Vaeth et al. '135 innovation, is a modification of the substrate prior to CVD process, and allows for formation of anisotropic distributed non-reactive polymer films. The pre-treatment of a substrate prior to CVD results in selective deposition of commercially available polymers, as is disclosed in the Vaeth et al. '135 patent. On the other hand, the applicant's invention is directed to a novel class of polymers made by chemical vapor deposition that are unified in the property of sufficient chemical reactivity to allow for post-modification. If the post-modification is anisotropic, then the process will result in a selectively modified substrate.

An example of the applicant's invention includes, a protein which can be chemically bound to the polymer coating. This may be accomplished everywhere or selectively at specific locations if the reaction of protein with the surface is anisotropic. However, in Vaeth et al. '135, the method is disclosed for selective deposition of a polymer by CVD. The polymers disclosed there have no chemical reactivity and therefore cannot react with, for example, a protein.

In view of the foregoing, it is believed that the amended claims and the claims dependent there from are in proper form. The Applicants respectfully contend that Vaeth '135 does not anticipate the claimed invention under the provisions of 35 U.S.C. § 102(b). Thus, claims 1-32 are considered to be patently distinguishable over the prior art of record.

In view of the foregoing comments, it is believed that the amended claims are in proper form and thus places the application into condition for allowance and an early indication of the same is respectfully requested.

Respectfully submitted,

A handwritten signature in dark ink, appearing to read 'Arlene J. Powers', is written over a horizontal line.

Arlene J. Powers
Registration No. 35,985
Samuels, Gauthier & Stevens
225 Franklin Street, Suite 3300
Boston, Massachusetts 02110
Telephone: (617) 426-9180
Extension: 116